

**REMARKS**

In accordance with the foregoing, claim 2 has been amended and claims 2-17 are pending and under consideration.

**REJECTION UNDER 35 U.S.C. § 103:**

*In the Office Action, at page 2, claims 2 and 5-9 were rejected under 35 U.S.C. § 103 in view of U.S. Patent No. 6,240,421 to Stolarz ("Stolarz") and in view of U.S. Patent No. 6,535,232 to Tsuda et al. ("Tsuda").*

On page 3, the Office Action correctly recognized that Stolarz fails to teach or suggest the enclosing "of the objects positioned in the apparent three-dimensional space display within a frame of a uniform size and reduces or enlarges the frame and the objects enclosed therein depending on a distance of the three-dimensional space from a vantage point outside the three-dimensional space," as recited in independent claims 2 and 5-9.

Referring to Tsuda, this reference generally describes generating an object based on three-dimensional object data externally input, an object position determination unit that moves the generated object according to a user input. See abstract. The apparatus of Tsuda moves a viewpoint in the three-dimensional virtual space according to an external user input, and thereby determines a viewpoint position according to correlation between the object position and the viewpoint position. See column 4, lines 53-60. A filter selecting means is provided that receives the calculated area as an input and selects a filter corresponding to the input area on the basis of a preset table or formula showing a relationship between areas of the projection plane of the object and filters used for enlarging or reducing the moving image to be mapped to the projection plane. See column 4, lines 63-67. Further, a filtering unit 43 receives the frame of the moving image from the moving image generation unit 19 as an input and performs filtering for enlarging or reducing the frame of the input moving image. See column 22, lines 29-32.

Nevertheless, although Tsuda appears to enlarge or reduce the moving image, nothing in the cited reference teaches or suggests that the filter selecting means or the filtering unit 43 "reduces or enlarges the frame and the objects enclosed therein **depending on a distance of the three-dimensional space from a vantage point outside the three-dimensional space**, where the size of the frame is determined based on a number of articles to be displayed, ease of viewing when displayed, and overall balance," emphasis added, as recited in independent claim 2. Rather, Tsuda enlarges or reduces the moving image to be mapped to the projection plane without making the enlargement or reduction dependant on the distance of the three-

dimensional space from a vantage point outside the three-dimensional space. Tsuda appears to refer to determining a view point position according to a correlation between an object position and the view point position, see column 2, lines 65-66, however, nothing in the cited reference teaches or suggests reducing or enlarging the moving image "depending on a distance of the three-dimensional space from a vantage point outside the three-dimensional space," as recited in independent claim 2. Also, although Tsuda describes in column 3, lines 40-67, that the object position and the view point position in the three-dimensional virtual space are obtained to calculate the distance from the view point position to the object, the filter used for filtering that enlarges or reduces **the moving image to be mapped to the object** is selected according to the distance and on the basis of the preset table or formula, Tsuda fails to teach or suggest that the moving image and the object are enlarged or reduced "depending on a distance of the three-dimensional space from a vantage point outside the three-dimensional space, where the size of the frame is determined based on a number of articles to be displayed, ease of viewing when displayed, and overall balance," emphasis added, as recited in independent claim 2. Rather, the moving image is enlarged or reduced so as to be mapped to the object.

Referring to independent claim 5, Tsuda generally describes the object position determination means that receives data relating to the object placed in the three-dimensional virtual space as an input from the object generation means, moves the object according to an external user input, and thereby determine the object position in the three-dimensional virtual space, projecting the object on a two-dimensional display projection plane, reproducing a necessary frame of the moving image from the moving image data. See column 2, lines 50-67, and column 3, lines 1-23. However, nothing in Tsuda teaches or suggests, "changing the vantage point with respect to the displayed three-dimensional space, wherein the server and the client terminal are connected to the system via a network, and when the vantage point is changed, the three-dimensional space data production unit redraws the object according to the changed vantage point," emphasis added, as recited in independent claim 5. Rather, Tsuda focuses on generating an object based on an input, determining the object position, and calculating a distance between the object position and the view point position. Nothing in the cited reference teaches or suggests redrawing the object "according to the changed vantage point," as recited in independent claim 5. Thus, the combination of the cited references would be silent as to providing all the claimed features recited in the claims.

Referring to independent claims 6-9, because independent claims 6-9 include similar claim features as those recited in independent claims 2 and 5, although of different scope, the arguments presented above supporting the patentability of independent claims 2 and 5 are

incorporated herein to support the patentability of independent claims 6-9.

***In the Office Action, at page 9, claims 3, 10, 12, 14, and 16 were rejected under 35 U.S.C. § 103 in view of U.S. Patent No. 6,240,421 to Stolarz ("Stolarz"), in view of U.S. Patent No. 5,982,372 to Brush, II et al ("Brush"), in view of U.S. Patent No. 6,535,232 to Tsuda et al. ("Tsuda"), and in view of U.S. Patent No. 6,212,441 to Hazama et al. ("Hazama").***

On page 10, the Office Action correctly recognized that Stolarz and Tsuda fail to teach or suggest, "wherein the three-dimensional space data production unit disperses positional coordinates of each object and reduces the display size of each object positioned within the apparent three-dimensional space display preventing object data to be displayed in an overlapped state when the objects have identical or contiguous coordinates and when a distance of the three-dimensional space from a vantage point is within a range," as recited in independent claim 3. Accordingly, the Office Action relies on Brush and Hazama as providing such claimed features. Although on pages 10 and 11 of the Office Action it appears that a contradiction exists as to Brush describing the asserted claimed feature of independent claim 3, the cited reference will be addressed.

Brush generally describes a visual metaphor for shortcut navigation in a virtual world. In three-dimensional technology, users are allowed to enter three-dimensional worlds. See column 2, lines 15-18. Once a maximum number of potential users have selected a hot spot, the hot spot becomes inactive until one of the users moves off one of the move-to coordinates. See column 7, lines 35-40. Separate move-to coordinates should be provided in order to prevent avatar overlap and maintain desired virtual reality. However, Brush fails to teach or suggest "preventing object data to be displayed in an overlapped state when the objects have identical or contiguous coordinates and when a distance of the three-dimensional space from a vantage point is within a range," emphasis added, as recited in independent claim 3. Rather, Brush simply provides inactivity until one of the users moves off one of the move-to coordinates, and nothing more. Nothing in the cited reference provides preventing the users from being displayed in an overlapped state "when the objects have identical or contiguous coordinates and when a distance of the three-dimensional space from a vantage point is within a range," as recited in independent claim 3.

Hazama generally provides managing and distributing design and manufacturing information throughout a factory in order to facilitate the production of components, such as bent sheet metal components by determining and maintaining a current view orientation, and

determining screen coordinates. See column 67, lines 25-67. A set of heuristics may be applied to select the best way to display the data from the available ways that the data may be displayed. See column 68, lines 1-15. For example, a first heuristic may require that the area of the screen that is closer to the viewpoint of the viewer is preferred. A second heuristic may define that the data is to be displayed in an area that is closer to the area where the distance between the possible points defining the dimension is smallest. Other heuristics may also be applied based on the relative position of other dimension data and other information to prevent overlapping and crowding on the screen. However, Hazama fails to provide a heuristic that would disperse "positional coordinates of each object and reduces the display size of each object positioned within the apparent three-dimensional space display preventing object data to be displayed in an overlapped state when the objects have identical or contiguous coordinates and when a distance of the three-dimensional space from a vantage point is within a range," emphasis added, as recited in independent claim 3. Thus, even if the cited references were combined, a combination thereof would fail to provide all the claimed features recited in independent claim 3.

Referring to independent claims 10, 12, 14, and 16, because independent claims 10, 12, 14, and 16 include similar claim features as those recited in independent claim 3, although of different scope, the arguments presented above supporting the patentability of independent claim 3 are incorporated herein to support the patentability of independent claims 10, 12, 14, and 16.

The Office Action provides improper motivation to combine the cited references. "A rejection of a patent application for obviousness under 35 USC §103 must be based on evidence comprehended by language of that section, and search for and analysis of prior art includes evidence relevant to finding of whether there is teaching, motivation, or suggestion to select and combine references relied on as evidence of obviousness; factual inquiry whether to combine references must be thorough and searching, based on objective evidence of record." See In re Lee 61 USPQ2d 1430 (CA FC 2002).

Thus, as pointed out in In re Lee, the record must support motivation, i.e., there must be something in the record pointing out where the recited motivation can be found. In addition, there must be some discussion on how that purported motivation or suggestion is even relevant to the reference being modified.

It appears that the Office Action divides the recitations in the claims into discrete features to then assert that the combination of the references provides all the recitations of the presently claimed invention. However, "one cannot use hindsight reconstruction to pick and choose

among isolated disclosures in the prior art to deprecate the claimed invention." In re Fine, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988). In addition, according to MPEP 2143.01, the proposed modification cannot render the prior art unsatisfactory for its intended purpose. Specifically, if Stolarz, Tsuda, Brush, and Hazama were combined, the combination thereof would provide an organization, storage, and retrieval of information from computer databases and hard copy files using identifier fields to generate an object based on three-dimensional object data externally input and to determine an object position in a virtual world, and to manage and distribute design and manufacturing information throughout a sheet metal productivity facility. The combination would be inoperable because there is no link between the computer databases and hard copy files with the virtual world and the management and distribution of the design and manufacturing information throughout the sheet metal production facility. Further, the combination would be inoperable because there is no link between the virtual world and the management and distribution of the design and manufacturing information throughout the sheet metal production facility. The combination of the cited references does not make sense and does not provide a workable apparatus or system.

Only the present invention sets forth all the claimed features, as well as the motivation for combining the same. The outstanding rejection would appear to have taken the teachings of the present invention and applied the same to generate a combination of Stolarz, Tsuda, Brush, and Hazama, as set forth in the Office Action, to disclose the presently claimed invention. Applicants respectfully assert that the prima facie burden has not been met and the obviousness rejection fails.

***In the Office Action, at page 11, claims 4, 11, 13, 15, and 17 were rejected under 35 U.S.C. § 103 in view of U.S. Patent No. 6,240,421 to Stolarz ("Stolarz") and in view of U.S. Patent No. 6,262,694 to Ishimoto et al. ("Ishimoto").***

The Office Action correctly recognized that Stolarz fails to teach or suggest, "a dividing unit dividing the three-dimensional space into movable planes or solid spaces," as recited in independent claim 4. Ishimoto generally describes a unit dividing an input image into a plurality of images based on varying distances from an image pickup position, for displaying the plurality of images divided in the image dividing unit, where the plurality of images divided in the image dividing unit are displayed on corresponding display units of the plurality of display units corresponding to the distances from the image pickup position. However, the cited reference says nothing about "dividing the three-dimensional space into movable planes or solid spaces," as recited in independent claim 4. The cited reference is silent as to providing such claimed

feature.

According to the Office Action, "it would have been obvious to one of ordinary skill in the art...to utilize the teaching of Ishimoto to provide the function of displaying the three-dimensional images on a large screen using display units having a relatively simple construction without requiring a user to wear a special equipment." However, as commonly understood, the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art..."[the Examiner] can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." In re Fritch, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992).

In addition, the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. See Id. at 1783-84. The Office Action provides no objective teaching in Stolarz that would lead an individual to combine the relevant teachings of the references. Only a portion is referred to in Ishimoto as to an advantage of using the system described therein, but that alone does not provide the motivation to incorporate those advantages into the system of Stolarz without showing where in this reference (i.e., Stolarz) is there an objective teaching to incorporate the advantages of Ishimoto. Accordingly, Applicants respectfully assert that the Office Action has provided improper motivation to combine the references.

Referring to independent claims 11, 13, 15, and 17, because independent claims 11, 13, 15, and 17 include similar claim features as those recited in independent claim 4, although of different scope, the arguments presented above supporting the patentability of independent claim 4 are incorporated herein to support the patentability of independent claims 11, 13, 15, and 17.

#### **CONCLUSION:**

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance, which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution

can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: 03/01/2004

By:   
Alicia M. Choi  
Registration No. 46,621

1201 New York Avenue, NW, Suite 700  
Washington, D.C. 20005  
Telephone: (202) 434-1500  
Facsimile: (202) 434-1501